Amendments to the Claims

1. (currently amended) A method for maximizing residual power along routes in a wireless network including a plurality of battery operated nodes, comprising:

discovering a plurality of routes from a destination node to a source node via intermediate nodes of the network using dynamic source routing (DSR);

measuring a residual power in the battery of each intermediate node;

determining a power cost associated with each route according to the residual power of the intermediate nodes;

selecting a particular route for transferring data from the source node to the destination node, the particular route having a least power cost;

including the particular route in a routing table in a packet, in which the routing table is an ordered list of intermediate node addresses;

determining a delay cost associated with each route;

selecting a particular route having a least delay cost; and

including the least delay cost in each transmitted packet; and

transmitting each packet in the network using the DSR, and in which each packet includes the routing table.

2. (cancelled)

3. (currently amended) The method of claim 1, further comprising:

associating a time of discovery with each route; ~~and~~

selecting the particular route having a most recent time of discovery; and

including a time stamp indicating the time that the particular route was discovered in the routing table in each transmitted packet.

4. (original) The method of claim 1, in which the network is ad-hoc.

5. (previously presented) The method of claim 1, further comprising:
storing a routing table in each node.

6. (original) The method of claim 1, further comprising:
quantizing the residual power to a power level to determine the power cost.

7. (original) The method of claim 6, further comprising:
participating in the route if the power level is a least power level;
not participating in the route if the power level is a highest level; and
participating in the route if the power level is an intermediate power level, and increasing the power cost according to the power level.

8. (original) The method of claim 6, in which an initial power of an n^{th} node is E joules, and the residual power in the n^{th} node at time t is $R(t)$ joules, and the power cost for using n^{th} node as an intermediate node is $P(n)$, and the power level $L(t)$ of the n^{th} is determined by

if $R(t) \leq E * \alpha$, then $L(t) = 3$;

else if $E * \alpha < R(t) \leq E * \beta$, then $L(t) = 2$;

else if $E * \beta < R(t) \leq E * \gamma$, then $L(t) = 1$;

else $L(t) = 0$.

where α, β, and γ are numbers less than 1.0 and monotonically increasing according to $\alpha < \beta < \gamma$.

9. (cancel)

10. (currently amended) The method of claim 1, in which the discovering uses ad-hoc on-demand distance vector routing, and includes ~~including~~ the routing table in each transmitted packet.

11. (currently amended) A method for maximizing residual power along routes in a wireless network including a plurality of nodes, each node having an address and a battery, comprising:

broadcasting a request packet, the request packet including the address of a source node and the address of a destination address using dynamic source routing (DSR);

receiving the request packet in an intermediate node;

measuring a residual power in the battery of the intermediate node;

determining a power cost associated with each route according to the residual power of the intermediate nodes;~~ and~~

sending a reply packet to the source node, the reply packet including the address of the intermediate node and the power cost;

determining a delay cost associated with each route;

selecting a particular route having a least delay cost;

including the least delay cost in each transmitted packet; and

repeating the broadcasting , receiving, measuring, determining and the sending until the request packet reaches the destination node;

constructing a route in a routing table in the source node from the reply packets, the route having the associated power cost;

selecting a particular route for transferring a data packet from the source node to the destination node, the particular route having a least power cost; ~~and~~

including the particular route in a routing table in a packet, in which the routing table is an ordered list of intermediate node addresses; and

transmitting each packet in the network using the DSR, and in which each packet includes the routing table.

12. (currently amended) A wireless network including a plurality of battery operated nodes, comprising:

means for discovering a plurality of routes from a destination node to a source node via intermediate nodes of the network using dynamic source routing ~~(DSR)~~;

means for measuring a residual power in the battery of each intermediate node;

means for determining a power cost associated with each route according to the residual power of the intermediate nodes; and

means for selecting a particular route for transferring data from the source node to the destination node, the particular route having a least power cost, in which the particular route is included in a routing table in a packet, in which the routing table is an ordered list of intermediate node addresses;

determining a delay cost associated with each route;

selecting a particular route having a least delay cost;

including the least delay cost in each transmitted packet and each packet in the network using the dynamic source routing ~~DSR~~, and in which

each packet includes the routing table.

13. (previously presented) The method of claim 1, in which the routing table includes a delay cost and the power cost of the route.

14. (previously presented). The method of claim 1, further comprising:

updating the routing table in each packet when the packet is transmitted.

15. (new) The method of claim 1, further comprising:

including, in each packets, an amount of residual power in each node along the particular route.